

Note : Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1	Fringe spacing increases if we use :			
	(A) Red light	(B) Blue light	(C) Yellow light	(D) Green light
2	The expression for centripetal force is given by :			
	(A) $\frac{mv^2}{r^2}$	(B) $\frac{m^2v^2}{r}$	(C) $\frac{m^2v^2}{r^2}$	(D) $mr\omega^2$
3	Rocket ejects the burnt gasses at a speed of over (consuming fuel at rate of 10000 kg / s) :			
	(A) 4000 m/s	(B) 400 m/s	(C) 4000 cm/s	(D) 400 cm/s
4	Distance between adjacent node and antinode is :			
	(A) λ	(B) $\frac{\lambda}{2}$	(C) $\frac{\lambda}{4}$	(D) $\frac{\lambda}{3}$
5	Equation of continuity gives the conservation of the :			
	(A) Mass	(B) Energy	(C) Speed	(D) Volume
6	Which pair has same unit :			
	(A) Work and power	(B) Momentum and impulse		
	(C) Force and torque	(D) Torque and power		
7	Efficiency of diesel engine is :			
	(A) 25% to 30%	(B) 30% to 35%	(C) 35% to 40%	(D) 40% to 50%
8	The ratio between orbital velocity and escape velocity is :			
	(A) 1	(B) $\frac{1}{2}$	(C) $\sqrt{\frac{1}{2}}$	(D) $\sqrt{2}$
9	Types of wave used in sonar are :			
	(A) Sound waves	(B) Light waves	(C) Heat waves	(D) Water waves
10	The quantity 1 (km)^2 is equal to :			
	(A) $1 \times 10^6 \text{ m}^2$	(B) $1 \times 10^5 \text{ m}^2$	(C) $1 \times 10^7 \text{ m}^2$	(D) $1 \times 10^4 \text{ m}^2$
11	1 torr is equal to :			
	(A) 133.3 Nm^{-2}	(B) 133.3 Nm^2	(C) 133.3 Nm	(D) $133.3 \text{ N}^2 \text{ m}$
12	If R_x and R_y both are negative then resultant lies in the quadrant :			
	(A) 1st	(B) 2nd	(C) 3rd	(D) 4th
13	Product of number of rulings "N" and the order of diffraction "m" is equal to :			
	(A) Resolving power	(B) Magnification	(C) Near point	(D) Magnifying power
14	In order to double period of a simple pendulum the length of the pendulum should be increased by :			
	(A) Four times	(B) Three times	(C) Two times	(D) Eight times
15	Difference between C_p and C_v is equal to :			
	(A) Avogadro's number	(B) Planck's constant		
	(C) Universal gas constant	(D) Boltzman's constant		
16	Ratio of disk velocity to hoop velocity (in case of rotational kinetic energy) is :			
	(A) $\sqrt{\frac{4}{3}}$	(B) $\frac{1}{2}$	(C) 2	(D) $\sqrt{\frac{3}{4}}$
17	Cross product of $\hat{j} \times \hat{k}$ is :			
	(A) Zero	(B) 1	(C) \hat{i}	(D) $-\hat{i}$